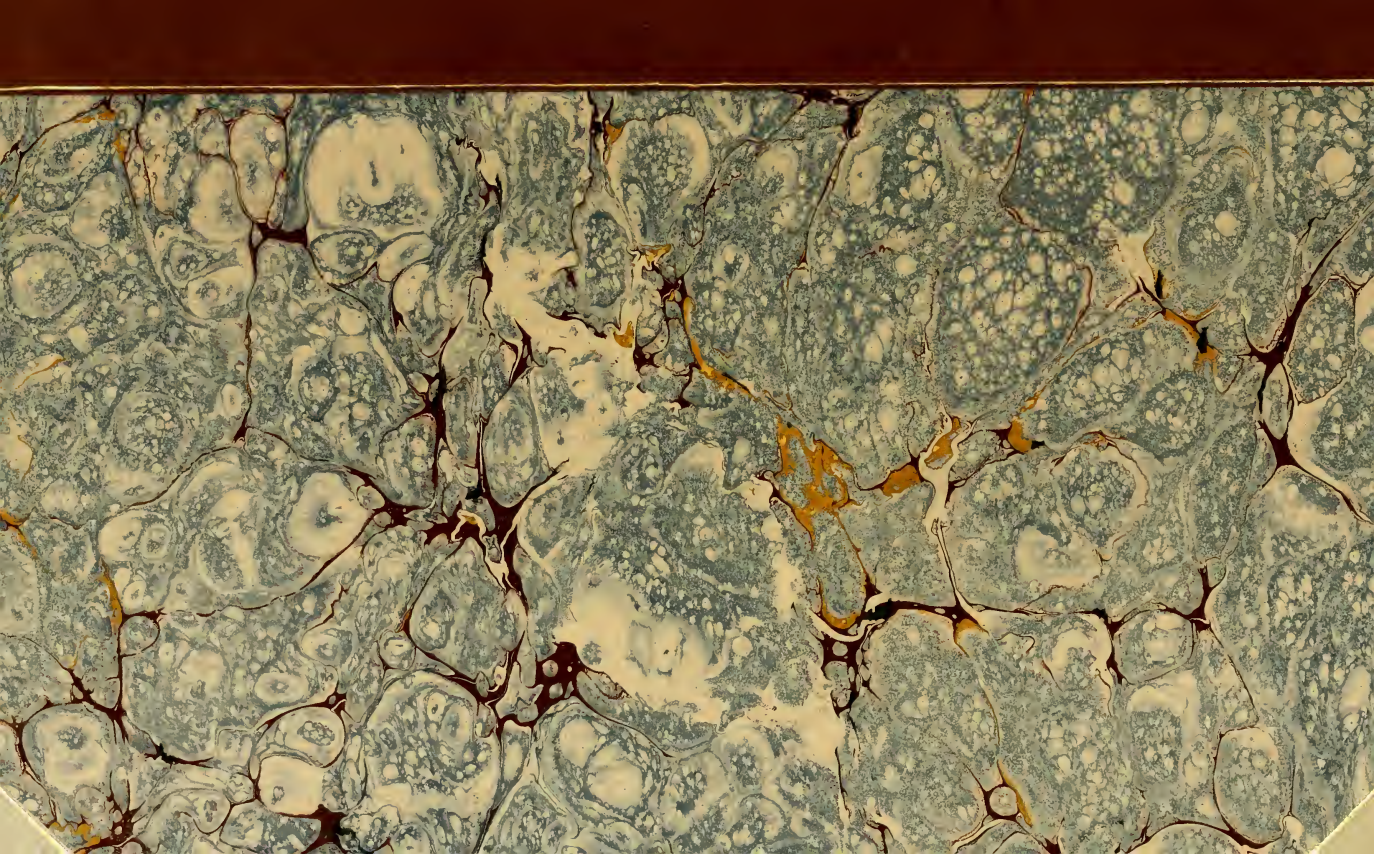

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THE

NATURAL HISTORY

OF

BRITISH INSECTS;

EXPLAINING THEM

IN THEIR SEVERAL STATES,

WITH THE PERIODS OF THEIR TRANSFORMATIONS, THEIR FOOD, OECONOMY, &c.

TOGETHER WITH THE

HISTORY OF SUCH MINUTE INSECTS

AS REQUIRE INVESTIGATION BY THE MICROSCOPE.

THE WHOLE ILLUSTRATED BY

COLOURED FIGURES,

DESIGNED AND EXECUTED FROM LIVING SPECIMENS.

By E. DONOVAN.

VOL. VIII.

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MDCCXCIX.

THE

NATURAL HISTORY

OF

BRITISH INSECTS.

PLATE CCLIII.

PHALÆNA PAVONIA, *minor. fem.*

EMPEROR MOTH, *female.*

The male of this fine ſpecies of Phalæna has been given in the firſt Number of this Work, with a promiſe that the female ſhould be added in a future Plate. The larva and pupa is repreſented with the male Inſect; but we have alſo introduced other caterpillars of the ſame ſpecies with the annexed figure, to ſhew the different ſtages of their growth. When young they are yellowiſh: the tubercles black, with a ſtripe of the ſame on the ſegments of the joints. After this, the yellow bands become orange, and the tranſverſe black ſtripes appear interrupted with longitudinal bands of pale green. Some are entirely green, except the tubercles, which are yellow, and a ſmall black ſpeck on each joint; and others are green, chequered with black, and marked on the ſide with a row of ſemilunar ſpots. In

the winged ſtate, we find more permanent and characteriſtic diſtinctions.

Linnæus, and after him Fabricius, deſcribes three varieties of Phalæna Pavonia, α minor β media and γ major. The firſt is the ſpecies found in this country, and in the north of Europe. The exiſtence of the ſecond was formerly diſputed by ſome naturaliſts; and the laſt is ſo extremely different, at leaſt in point of magnitude, that we may almoſt venture to remove it entirely from the two preceding.

The difference between the male and female of the common Emperor Moth is ſtrikingly obvious; the male is ſmaller than the female, and the colours in general darker; the poſterior wings alſo are orange in the male, and not ſo in the female; and finally, the two ſexes may be determined by the ſtructure of the antennæ: thoſe of the male being nearly oval, and very deeply feathered, or pectinated, and thoſe of the female being alſo pectinated, but ſo ſlightly as to appear ſetaceous. As the ſtructure of the antennæ is an unerring criterion by which the ſexes are aſcertained, the Phalæna Pavonia *media* is a phænomenon in Entomology, for both the male and female ſo perfectly reſembles the *female Emperor Moth*, P. P. media, which we have figured, that it may be miſtaken for the ſame ſpecies: the female differs in no reſpect from it; and the male only in the form of the antennæ. We have received this remarkable ſpecies from Italy and Germany. It is figured only by *Eſper*, *Phal.* 3. *tab.* 3; and is thus deſcribed by Linnæus and Fabricius, β media: "ſingularis ob fœminam mari ſimillimam." The third, P. Pavonia major, can by no means be confounded with the preceding: our ſpecimen of it is ſix inches in breadth, and is alſo very bulky: it is found in the *Pays de vaud.* Roeſel has given a figure of both ſexes with the larva and pupa. The winged Inſect is of a dingy brown, the marks ſomewhat ſimilar to thoſe of the common kind. The larva is large, with the head ſmall in proportion. The whole is of a citron green, furniſhed

furniſhed with elevated tubercles, whoſe ſummits diverge into rays like a ſtar, and are of an azure blue colour: it is alſo beſet with a number of long filaments of threads, each of which terminate in a little capitulum ſimilar to the antennæ of a Butterfly.

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PLATE CCLIV.

FIG. I. I.

PAPILIO PANISCUS.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings in general erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, divaricated; dark brown with fulvous ſpots.

HESPERIA PANISCUS: alis integerrimis divaricatis: poſticis utrinque fuſcis fulvo maculatis. *Fab. Ent. Syſt. T. 3. p. 1. 328. 242.*

Papilio Brontes. *Wien. Verz. 160. 6.*

Papilio Palemon. *Pall. Itin. 1. App. Nr. 63.*

β Papilio Silvius. *Eſp. pap. tab. 80. fig. 5. 6.*

P. Paniſcus is deſcribed by Fabricius as a native of Germany, and has been lately added to the liſt of Britiſh Papiliones. In this country it ſeems a very local ſpecies. It is deemed a rare Inſect by Entomologiſts.

FIG. II.

PAPILIO SYLVANUS.

LEPIDOPTERA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings divaricated, brown, with ſquare ſpots, that appear yellow on the upper ſurface, whitiſh beneath.

HESPERIA SYLVANUS: alis divaricatis fuſcis: maculis quadratis ſupra flavis ſubtis albis. *Fab. Ent. Syſt. T.* 3. *p.* 1. 326. 237.

Fabricius has no reference to any author for a figure of this ſpecies, nor is it deſcribed by Linnæus: this is the more remarkable, as the ſpecies is found in great abundance in the months of May and June in this country, and is not uncommon in Sweden and Germany.

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PLATE CCLV.

FIG I.

SCARABÆUS NUTANS.

GENERIC CHARACTER.

Antennæ terminate in a kind of club; which is longitudinally divided into lamina, two, three, or ſeven in number. Second joint of the anterior, or foremoſt legs, armed with ſpines.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black; without ſcutellum; anterior part of the thorax impreſſed or hollow. Back of the head terminates in an erect ſpine, bent at the apex.

SCARABÆUS NUTANS: exſcutellatus thorace antice impreſſo, occipite ſpina erecta apice nutante, corpore nigro. *Fab. Ent. Syſt. T.* 1. *p.* 59. 194.

Scarabæus nutans. *Oliv. Inſ.* 1. 3. 145. 176. *tab.* 21. *fig.* 188.

A local ſpecies. It is ſeldom found in this country. Fabricius notes it as a Saxon Inſect.

FIG.

FIG. II.

SCARABÆUS NUCHICORNIS.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax roundiſh. Back of the head armed with an erect ſpine.

SCARABÆUS NUCHICORNIS: thorace rotundato, occipite ſpina erecta armato. *Linn. Syſt. Nat.*

SCARABÆUS NUCHICORNIS: exſcutellatus, thorace rotundato mutico, occipite ſpina erecta armato, clypeo marginato. *Fab. Ent. Syſt. T.* 1. 192. *p.* 58.

Not uncommon in ſeveral places near London.

PLATE

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PLATE CCLVI.

BUPRESTIS MINUTA.

MINUTE BUPRESTIS, or COW BURNER.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ ſetaceous, length of the thorax. Head half retracted within the thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Ovated. Wing-caſes bronged, rugged, and tranſverſely undulated with ſtreaks of fine whitiſh hairs.

BUPRESTIS MINUTA: elytris integris tranſverſe rugoſis, thorace ſubtrilobo lævi, corpore ovato nigro. *Linn. Syſt. Nat.* 2. 663. 24.—*Fn. Sv.* 760.—*Fab. Ent. Syſt.* 1. *p.* 2. 212. *ſp.* 111.

Cucujus fuſco cupreus triangularis: faſciis undulatis villoſo albidis. *Geoff. Inſ.* 1. 128. 6.

The natural ſize is repreſented at figure 1.

This pretty ſpecies is found on the nut tree in May and June.

PLATE

PLATE CCLVII.

PHALÆNA VERBASCI.

Water Betony Moth.

Lepidoptera.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general reflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax creſted. Wings deflexed, margins deeply ſerrated. A dark brown ſtreak along the poſterior edge of the firſt wings.

Phalæna Verbasci: criſtata alis deflexis dentato eroſis: margine laterali fuſco immaculato. *Linn. Syſt. Nat.* 2. 850.
Fn. Sv. 118.
Fab. Ent. Syſt. Nat. T. 3. *p.* 2. 120. *Sp.* 363.
Wien. Verz. 73. 8.
Raj. Inſ. 168. 25.
Geoffr. Inſ. 2. 158. 96.
Sulz. Hiſt. Inſ. tab. 22. *fig.* 7.
Reaum. Inſ. 1. *tab.* 43. *fig.* 9. 11.
Friſch. Inſ. 6. *tab.* 9.
Merian. Europ. 3. *tab.* 29.

The Water Betony Moth is a very abundant ſpecies; the larva feeds on the Moth Mullien, or Water Betony plant, as its name implies. It is in the larva ſtate in July, becomes a pupa, and the fly is produced in April.

PLATE CCLVIII.

PAPILIO GALATHEA.

MARBLE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, chequered with black and white, in irregular ſpots and lines. Beneath, one eye-ſpot on the anterior wings, and five on the poſterior ones.

PAPILIO GALATHEA: alis dentatis albo nigroque variis: ſubtus anticis ocello unico, poſticis quinque. *Linn. Syſt. Nat.* 2. 772. 147.
Fab. Ent. Syſt. T. 3. *p.* 1. 239. 745.
Schæff. Icon. tab. 98. *fig.* 7, 8, 9.
Roeſ. Inſ. 3. *tab.* 37. *fig.* 1. 2.
Eſp. pap. 1. *tab.* 7. *fig.* 3.—*Tab.* 25. *fig.* 1.
Ernſt. Inſ. Europ. 1. *tab.* 30.
Petiv. Muſ. 4. 3. *tab.* 1. *fig.* 1.

This

This Inſect is very common in the fly ſtate in the month of June. It frequents meadows, and is ſuppoſed to feed on graſs in the larva ſtate. The larva is very ſeldom met with. It is thus deſcribed by ſome authors: *Larva* depreſſed, or flattiſh, of a yellowiſh colour, marked with an obſcure line down the back and ſides. The *Pupa* blue, with a red tail *.

The light colour in the wings varies in different inſects, ſome being almoſt white, and others pale yellow.

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* *Naturf.* 14. *tab.* 2. *fig* 1.—*Fab. Ent. Syſt. &c.*

PLATE CCLIX.

PAPILIO SEMELE.

BLACK-EYED MARBLED BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings erect, when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, dark brown, with fulvous ſpots next to the exterior margin. Two black rings, or eyes, on the anterior, and one on the poſterior wings.

PAPILIO SEMELE, alis dentatis: faſcia maculari fulva ocelliſque duobus: anticis ſubtus diſco baſeos. *Linn. Syſt. Nat.* 2. 772. 148.—*Fn. Sv.* 1051.
Fab. Ent. Syſt. T. 3. *p.* 1. 232. 725.
Eſp. pap. 1. *tab.* 8. *fig.* 1.
Schæff. Icon. tab. 207. *fig.* 3, 4.
Sulz. Hiſt. Inſ. tab. 17. *fig.* 5, 6.

This ſpecies lives chiefly in the woods. It appears in the winged ſtate in July. The larva is not clearly aſcertained by any author.

PLATE CCLX.

PAPILIO ATALANTA.

RED ADMIRABLE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, black with white ſpots. A red ſtripe acroſs the anterior wings, and another along the poſterior margin of the lower wings.

PAPILIO ATALANTA: alis dentatis nigris albo maculatis: faſcia communi purpurea anticarum utrinque poſticarum marginali. *Linn. Syſt. Nat.* 2. 779. 175.—*Fn. Sv.* 1060.—*Fab. Ent. Syſt. T.* 3. *p.* 1. 118. 362.
Albin. Inſ. 3. *fig.* 4.
Degeer Inſ. 1. *tab.* 22. *fig.* 5.
Roeſ. Inſ. 1. *pap.* 1. *tab.* 6.
Sepp. Inſ. 1. *tab.* 1.
Schæff. Icon. tab. 148. *fig.* 1, 2.
Ernſt. Inſ. Europ. 1. *tab.* 6.
Geoff. Inſ. 2. 40. 6.
Ammer Inſ. tab. 24.

The

The red admirable Butterfly is certainly a very common ſpecies, but as one of the moſt beautiful this country can boaſt of, is entitled to our particular conſideration.

The Caterpillars are of ſeveral kinds, according to the different ſtages of growth. In the laſt ſkin they are green, with a yellow ſtripe on each ſide of the belly, and beſet with curiouſly ramified, or branching ſpines: ſometimes they are black, with a yellow belly, or black, variegated with red, brown, and yellow The Chryſalis is of a dark colour, ornamented with ſeveral ſpots of ſhining gold. The Caterpillars are found on the nettle in June and July: it remains in Chryſalis twenty-one days, and the Butterfly appears in Auguſt. There are two broods of this ſpecies in general every ſeaſon.

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PLATE CCLXI.

FIG. I. I.

HIPPOBOSCA EQUINA.

HORSE, OR SPIDER FLY.

DIPTERA.

GENERIC CHARACTER.

Roſtrum bivalve, cylindrical, obtuſe and wavering. Antennæ ſhort, ſetaceous. Without ſtemmata. Feet armed with many nails or crotchets.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings obtuſe. Thorax variegated. Feet armed with three crotchets.

HIPPOBOSCA EQUINA, alis obtuſis, thorace albo variegato, pedibus tetradactylis. *Linn. Syſt. Nat.* 2. 1010. 1. *Fn. Sv.* 1921.—*Fab. Ent. Syſt. Vol.* 4. *p.* 415. 1.
Degeer. Inſ. 6. 257. 1. *tab.* 16. *fig.* 1.
Reaum. Inſ. 2. *tab.* 179. *fig.* 8, 9.

Few ſpecies of Hippoboſcæ have hitherto been diſcovered. Four kinds were known to Linnæus, and Fabricius has not encreaſed

that

that number in either of his Entomological Syſtems. A fifth ſpecies is deſcribed by Gmelin in the laſt edition of the Syſtema Naturæ, under the name of Uralenſis*. The ſpecies in the Entomologia Syſtematica of Fabricius, are *Equina*, *Avicularia*, *Hirundinis*, and *Lovina*. The firſt is rather larger than the others, and is well known by the common name of Horſe Fly, becauſe it frequently moleſts thoſe animals, and attaching itſelf to their bodies, penetrates the ſkin, and ſucks their blood. The three other ſpecies are alſo natives of this country, and like the H. equina, ſubſiſts on the blood of certain animals. The H. avicularia is found chiefly on the bodies of birds, and H. hirudinis more eſpecially on ſwallows. Theſe creatures are all of a diſguſting form, flat, and hard: they adhere very tenaciouſly by means of the nails or crotchets of their talons, which in this genus are numerous; and are not eaſily killed by preſſure. The H. equina has three ſharp incurvated nails to each foot, the H. hirundinis is furniſhed with twice that number on each.

FIG. II.

HIPPOBOSCA AVICULARIA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings obtuſe. Thorax without ſpots, and of one colour.

* Hippoboſca uralenſis: atra hirſuta dorſo ordinibus tribus veſicularum albarum nitentium. Lepechin it. 1. t. 19. f. 9. *habitat in deſerto Uralenſi.*

HIPPOBOSCA AVICULARIA, alis obtusis, thorace unicolore. *Linn. Syst. Nat.* 2. 1010. 2.—*Fn. Sv.* 1922.—*Fab. Ent. Syst.* 4. *p.* 415. 2.

The figure of Hippobosca avicularia in the works of Sulzer nearly agrees with our insect, except in colour; it is of a dull brown, with less of the green cast.

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PLATE CCLXII.

FIG. I. I.

PHALÆNA ATRIPLICIS.

WILD ARRACH MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe, wings in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax creſted, anterior wings, brown, clouded and marked with undulated ſtreaks, and a two-cleft or forked yellow mark in the middle.

PHALÆNA ATRIPLICIS, criſtata alis deflexis: anticis fuſco nebuloſis; litura media flava bifida. *Lin. Syſt. Nat.* 2. 854. 173. *Fab. Ent. Syſt. T.* 3. *p.* 95. *ſp.* 282. *Roeſ. Inſ.* 1. *phal.* 2. *tab.* 31.

This ſpecies is noticed by Harris and Berkenhout, as a native of Great Britain, under the trivial name of *Wild arrach Moth*; we have ever conſidered it a local ſpecies. It is found in Cambridgeſhire,

the Caterpillar in Auguſt, the Fly in September. The wild orach and common dock are its favourite food.

FIG. II. II.

PHALÆNA UMBRATICA.

SHARK MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax creſted. Wings deflexed, lanceolated, greyiſh, ſtriated longitudinally with pale black. A faint reddiſh daſh in the middle, marked with two black ſpots.

PHALÆNA UMBRATICA: criſtata alis deflexis ſtriatis lanceolatis canis: macula centrali ferruginea; punctis duobus nigris. *Linn. Syſt. Nat.* 849. 150. *Fn. Sv.* 1184.—*Fab. Ent. Syſt. T.* 3. *p.* 122. 368.

Noctua lucifuga. *Wien. Verz.* 312. 11 *?*
Roeſ. Inſ. 1. *phal.* 2. *tab.* 25.

The larva of Phalæna Umbratica is ſometimes of a dirty brown, with ſpots of clay colour; it feeds on the ſow thiſtle; changes into the Chryſalis ſtate in May, and the Flies appear in June.

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PLATE CCLXIII.

FIG. I.

PHALÆNA PINETELLA.

PEARL VENEER MOTH.

GENERIC CHARACTER.

Antennæ, taper from the baſe. Wings in general deflexed, when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt wings yellowiſh brown, with two large whitiſh, or pearl-like ſpots on each.

TINEA PINETELLA: alis anticis flavis: maculis duabus albiſſimis, anteriore oblonga, poſteriore ovata. *Linn. Syſt. Nat.* 2. 886. 356.—*Fn. Sv.* 1368. *Fab. Ent. Syſt. T.* 3. *p.* 2. 294. *Clerk. phal. tab.* 4. *fig.* 7.
Panz. Faun. Germ. 6. *tab.* 22.
Wien Verz. 134. 7.

We met with a ſpecimen of this beautiful little Moth, in June 1798, in Norwood. It is certainly a rare and intereſting Britiſh

ſpecies; though long ſince known to collectors of Inſects by the trivial Engliſh name above adopted. It may not be improper to add, that this ſpecimen was found in a willow tree, as thoſe continental Authors who have noticed it, ſay it inhabits pine trees.

FIG. II.

PHALÆNA COLONELLA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt wings oblong, greyiſh, with two black ſpots in the centre. A faint undulated bar acroſs the interior, and another near the exterior part of each wing.

TINEA COLONELLA: alis oblongis cinereis: punctis duabus atris ante ſtrigam curvam undulatam obſoletam. *Linn. Syſt. Nat.* 2. 883. 346. *Fn. Sv.* 1358.—*Fab. Ent. Syſt. T.* 3. *p.* 2. *p.* 288. 5.

Found on the alder in July.—*Combe wood, Surrey.*

PLATE

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PLATE CCLXIV.

FIG I.

LUCANUS PARALELEPIPEDUS.

SMALL BLACK STAG BEETLE.

GENERIC CHARACTER.

Antennæ terminate in a club or knob compreſſed on one ſide, and divided into laminæ or teeth. Maxillæ or jaws, ſtrong, porrected before the head, and armed with teeth.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black: body depreſſed. Maxillæ furniſhed with a large elevated tooth on the interior ſide.

LUCANUS PARALELEPIPEDUS: mandibulis dente laterali elevato, corpore depreſſo. *Linn. Syſt. Nat.* 2. 561. 6. *Fab. Ent. Syſt. T.* 1. *p.* 2. 239. 11.

Platycerus niger, elytris lævibus, capitis puncto duplici prominente. *Geoff. Inſ.* 1. 62. 3.
Degeer. Inſ. 4. *tab.* 12. *fig.* 9.
Schæff. Icon. tab. 63. *fig.* 7.
—— *Elem. tab.* 101. *fig.* 1.

Three

Three ſpecies of Lucani are found in this country. The largeſt is Lucanus Cervus, of which a figure has been given in the early part of this Work. The preſent ſpecies and L. caraboides complete the liſt of Britiſh Lucani.

The firſt kind is known to live in the larva ſtate in decayed wood, and it is ſuppoſed the ſame habits of life belong to others of this tribe. Lucanus Paralelepipedus ranks amongſt the rareſt Coleopterous inſects of this country; in Denmark and Germany it is not uncommon.

FIG. II.

SCARABÆUS MELOLONTHA.

TREE BEETLE, or COCKCHAFER.

GENERIC CHARACTER.

Antennæ terminate in a kind of club, which is longitudinally divided into laminæ. Second joint of the anterior legs, armed with ſpines.

SPECIFIC CHARACTER

AND

SYNONYMS.

Furniſhed with ſcutellum. Brown. Thorax hairy. Tail bent or inflected, a triangular white ſpot at each inciſure of the abdomen.

SCARABÆUS MELOLONTHA: ſcutellatus muticus teſtaceus, thorace villoſa, cauda inflexa, inciſuris abdominis albis. *Linn. Syſt. Nat.* 2. 554. 60.—*Fn. Sv.* 392.

Melolontha

Melolontha vulgaris. *Roef. Inf.* 2. *Scarab.* 1. *tab.* 1.
Melolontha vulgaris. *Fab. Spec. Inf.* 1. *p.* 35. 3.—*Syſt. Ent. T.* 1. *p.* 2. *p.* 155. 3.
Degeer. Inf. 4. *tab.* 10. *fig.* 14.
Voet. Scarab. tab. 6. *fig.* 45. 46.

The Cockchafer is found in the greateſt abundance throughout Europe, and in ſome countries are infinitely more detrimental to agriculture than in England. In the larva ſtate, it lies buried beneath the ſurface of the earth, where it does incredible miſchief by devouring the roots of plants. After remaining three years in the larva ſtate it becomes a winged Inſect, and leaving its ſubterraneous habitation, is not leſs detrimental to the corn and other kinds of grain, and alſo to trees; particularly the Oak. In ſome ſeaſons, when they are numerous, we find the Oak ſtripped of its leaves, and otherwiſe much injured by theſe voracious animals. About noon the Cockchafers collect in conſiderable multitudes among the leaves of the lower boughs of the Oak, when they may be eaſily taken, by ſhaking or beating them into baſkets, &c.

Several varieties of this ſpecies are mentioned by authors; particularly one with a red thorax, by Roeſel.

FIG. III.

SCARABÆUS STERCORARIUS.

Common Dor, or Clock Beetle.

*Both thorax and head without ſpines.

SPECIFIC

SPECIFIC CHARACTER.

Furniſhed with ſcutellum. Black: clypeus rhombic with a ſmall elevation or protuberance in the middle. Wing caſes furrowed.

SCARABÆUS STERCORARIUS: ſcutellatus muticus ater, clypeo rhombeo, vertice prominulo, elytris ſulcatis. *Linn. Syſt. Nat.* 2. 551. 42.
Fn. Sv. 388.
Fab. Syſt. Ent. 17. 60.
Spec. Inſ. 1. *p.* 18. 74.
Schæff. Icon. tab. 23. *fig.* 9.

Like the preceding ſpecies, this Beetle lives in the larva ſtate in the earth. The Winged Inſect is found in the dung of animals, carrion, &c. Few inſects are found more numerous or general throughout Europe than this. The colour is black, with very vivid gloſſes of ſhining blue, green, and purple, in different ſpecimens; and we have a variety of it from the ſouth of Europe that is entirely of a dull reddiſh colour.

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PLATE CCLXV.

PHALÆNA JOTA.

Golden *i* Moth.

Lepidoptera.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax creſted. Anterior wings ferruginous red, variouſly ſhaded, and marked in the centre with an inverted golden *i*.

Phalæna Iota: criſtata alis deflexis, anticis ferrugineo griſeis I reſupinato aureo inſcriptis. *Fab. Syſt. Ent.* 608. 76. —*Sp. Inſ. T.* 2. *p.* 228. 98.—*Ent. Syſt. T.* 3. *p.* 81. *Sp.* 237.

Phalæna Iota: alis primoribus ferrugineo-griſeis, I reſupinato aureo inſcriptis. *Gmel. Syſt. Nat.*—*Ent. p.* 2557. 130. *Roeſ. Inſ.* 1. *phal.* 3. *tab.* 5.

Linnæus very accurately deſcribed this Inſect under the ſpecific name *Iota* in the early edition of the Syſtema Naturæ. It is given as a native of Germany, and without a reference to any figure. Fabricius has followed the ſame deſcription throughout all his works, without

without noticing any figure of it alſo, until the Entomologia Syſtematica appeared, when a reference is given to *tab.* 5. *Phal.* 3. *Vol.* I. of Roeſel's Inſects. This is however erroneous, for Linnæus includes that reference among the Synonyms of his *Phalæna Gamma*, and *Gmelin*, his lateſt editor, continues the ſame amongſt the Synonyms of Gamma likewiſe. Kleman , who reviſed the laſt edition of Roeſel's work, is decidedly of opinion, that the figure is that of Gamma, and aſſigns the Linnæan ſpecific name to it accordingly. Whatever reaſon influenced the opinion of Fabricius, that the figure in queſtion was the true Phalæna Iota of Linnæus, when that author himſelf ſays otherwiſe, is not mentioned by Fabricius, and is by no means clear to us; but one circumſtance cannot eſcape obſervation: Fabricius has in no inſtance referred to the figure in Roeſel's plate before the publication of his laſt work, though all the other Synonyms of *Phalæna Gamma* are the ſame in every edition of the Fabrician ſyſtems as in thoſe of his predeceſſor, Linnæus.

This Inſect is very beautiful, and much rarer than the following ſpecies. It is found on the common, and white dead nettles, or archangel. The larva has twelve feet; is without hairs, green; and ſpotted with white. The Moth appears in June.

FIG. II.

PHALÆNA GAMMA.

COMMON γ MOTH.

SPECIFIC CHARACTER.

AND

SYNONYMS.

Thorax creſted. Anterior wings brown, with a golden γ inſcribed in the centre.

PHALÆNA

PHALÆNA GAMMA: criſtata alis deflexis dentatis: anticis fuſcis γ aureo inſcriptis. *Linn. Syſt. Nat.* 2. 843. *p.* 127.
Fab. Ent. Syſt. T. 3. *p.* 79. *ſp.* 228.

PHALÆNA GAMMA: alis primoribus fuſcis γ aureo inſcripts
Gmel. Linn. Syſt. Nat.—Ent. 2555. *ſp.* 127.
Geoff. Inſ. 2. 156. 92.
Goed. Inſ. 2. *t.* 21.
Rag. Inſ. p. 163. *n.* 16.
Petiv. Gazoph. 4. 6.
Schæff. Icon. tab. 84. *fig.* 5.
Friſch. Inſ. 5. 15.
Reaum. Inſ. 2. *tab.* 26. *fig.* 5.
Albin. Inſ. tab. 79. *fig. G. H.*
Sepp. Inſ. 5. *tab.* 1. 61.

Phalæna Gamma is one of thoſe ſpecies which feed indifferently on many kinds of plant. It is often found amongſt nettles and other low herbage, or in gardens amongſt cabbages, &c. It is of a green colour, with pale or whitiſh longitudinal ſtripes on the back, and the ſides yellow. The Moth is found in Auguſt and September.

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PLATE CCLXVI.

FIG. I, II.

PHALÆNA LEMNATA

SMALL WHITE CHINA MARK MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ ſetaceous. Wings ſnowy white. A black ſtreak next the poſterior margin of the lower pair, marked with four white ſpots.

PHALÆNA LEMNATA: ſeticornis alis niveis: poſticis faſcia terminali nigra; punctis quatuor albis. *Lynn. Syſt. Nat.* 2. 874. 278.—*Fn. Sv.* 1301.—*Fab. Ent. Syſt. T.* 3. *p.* 2. *p.* 215. *ſp.* 319.
Raj. Inſ. 205. 102.
Reaum. Inſ. 2. *tab.* 12. *fig.* 14, 15.

Linnæus and Fabricius deſcribe only the male of this ſpecies; the female is rather larger, the colour pale brown, with markings

 ſimilar

ſimilar to thoſe of the other ſex, but of a reddiſh colour. The characteriſtic black line, with white ſpots on the poſterior wing, is the ſame as in the male Inſect.

This Moth derives its ſpecific name, Lemnata, from the food of its Caterpillar, or larva, which is uſually ſome ſpecies of *lemna*, (duckweed) or other aquatic plant. In the winged ſtate it is a very common Inſect, particularly in marſhy ground, and the ſides of ponds and ditches. In general we find two broods of them in the ſummer; the firſt appears in May, the ſecond in July or Auguſt.

FIG. III.

PHALÆNA DECUSSATA.

PRETTY WIDOW MOTH.

GEOMETRA.

SPECIFIC CHARACTER.

Antennæ ſetaceous. Wings cinereous, with four black ſtreaks: the two middle ones of a ſerpentine form, and croſſing each other. Several undulated dotted black lines.

PHALÆNA DECUSSATA: ſelicornis, alis cinereis; ſtrigis quatuor, mediis decuſſatim flexuoſis, lineolis undulatis atomiſque nigris.

A rare and new ſpecies. It has been taken at Faverſham by Mr. Crewe, and trivially named the Pretty Widow Moth.

FIG.

FIG. IV.

PHALÆNA ATRALIS.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings black, with two white ſpots on each.

PHALÆNA ATRALIS: alis atris: maculis duabus niveis. *Linn. Mant.* 540.—*Fab. Syſt. Ent. T.* 3. *p.* 2. 241. *ſp.* 422.
Phalæna funera. *Myll. Zool. Dan.* 132. 1524.
Phalæna guttalis. *Wien. Verz.* 124. 45.
Phalæna funebris. *Act. Nidroſ.* 4. *tab.* 16. *fig.* 17.

Taken in June, on Epping Foreſt.

PLATE

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PLATE CCLXVII.

FIG. I. II.

PHALÆNA DEGEERELLA.

LONG HORN JAPANNED MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ, taper from the baſe. Wings in general deflexed, when at reſt. Fly by night.

TINEA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black, bronzed, or changeable to gold. A yellow indented band acroſs the anterior wings. Antennæ very long.

PHALÆNA DEGEERELLA: alis atro aureis: faſcia flava, antennis longis. *Linn. Syſt. Nat.* 2. 895. 426.—*Fn. Sv.* 1393.
ALUCITA DEGEERELLA. *Fab. Ent. Syſt. T.* 3. *p.* 2. *p.* 341. 40.

The two ſexes of this beautiful and extraordinary little Inſect has been deſcribed as two diſtinct ſpecies. They differ principally in the form and ſize of the antennæ; in the female theſe are entirely ſetaceous, or like a fine hair, three times the length of the whole body: the antennæ in the male are ſhorter, and are thick in the middle, not very unlike thoſe of ſome kinds of Sphinges. It is not uncommon in hedges in May and June.

FIG. III. III.

PHALÆNA PODAELLA.

Scarce Japanned Moth.

Lepidoptera.

Tinea.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ very long. Wings golden black. A narrow gold or yellow line of equal breadth acrofs the anterior wings.

Phalæna Podelia : antennis longiffimis, alis nigro-æneis, anticis fafciâ equali anguſta aurea.
Phalæna Podella : antennis mediocribus alis nigris fafcia albida. *Linn. Syſt. Nat.* 896. 428.
Alucita Podaella. *Fab. Ent. Syſt.* 3. *p.* 2. 341. *n.* 42.

Like the preceding fpecies, the two fexes of Phalæna *Tinea* Podaella are diſtinguiſhed by the different form of the antennæ ; and Linnæus has evidently defcribed only the male, or he would not have defined it—"*Antennis mediocribus*," for the antennæ of the female are remarkably long.

The

The reference made by Fabricius to *Geoff. Inf.* 2. 194. 32. for this Inſect, is certainly erroneous; for the Inſect therein deſcribed is ſtated to have a white band acroſs the four wings, a white point near the exterior margin of the upper wings, and a ſmall tranſverſe white mark towards the baſe. Linnæus does not quote *Geoffroy* for this Inſect; and it is evident, Fabricius has confined his reading to the Latin ſpecific deſcription, which certainly agrees with the Linnæan deſcription of Podaella in the *Syſt. Nat.*

The natural ſize and magnified appearance is ſhewn at Fig. III. III.

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PLATE CCLXVIII.

FIG I.

HIPPOBOSCA HIRUNDINIS.

GENERIC CHARACTER.

Roſtrum bivalve, wavering. Feet armed, with many nails.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings taper to a point from the baſe. Six claws on each foot.

HIPPOBOSCA HIRUNDINIS: alis ſubulatis, pedibus hexadactylis.
Linn. Syſt. Nat. 2. 1010. 3. *Fn. Sv.* 1923.
Geoff. Inſ. 2. 547. 2.—*Panz-Faun. Inſ. Germ.*

Found on the bodies and neſts of ſwallows.

The ſmalleſt Figure denotes the natural ſize.

FIG. II.

HIPPOBOSCA OVINA.

APTEROUS.

SPECIFIC CHARACTER.

Without wings.

HIPPOBOSCA OVINA: alis nullis. *Linn. Syſt. Nat.* 2. 1011. 4.
Fn. Sv. 1924.
Friſch. Inſ. 5. *tab.* 18.

This is the fourth and laſt ſpecies of the Hippoboſcæ found in Great Britain.

PLATE

PLATE CCLXIX.

SPHINX OCELLATA.

Eyed Hawk Moth.

GENERIC CHARACTER.

Antennæ thickeſt in the middle. Wings deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated. Poſterior pair red, with a large blue eye in the middle of each.

Sphinx Ocellata: alis angulatis, poſticis rufis ocello cœruleo. *Fab. Syſt. Ent.* 536. 1.

Sphinx Ocellata, alis repandis, poſticis ocellatis. *Linn. Syſt. Nat.* 2. 796. 1.—*Fn. Sv.* 1083.

Phalæna alis inferioribus macula ophthalmoide inſignibus. *Alb. Inſ. tab.* 8. *fig.* 2.
Drury Inſ. 2. *tab.* 25. *fig.* 2. 3.
Roeſ. Inſ. phal. 1. *tab.* 1.
Schæff. Icon. tab. 99. *fig.* 5. 6.
Merian Europ. 2. *tab.* 87.

The Sphinges are only, in a few inſtances, remarkable for that gaiety and ſplendour of colours, which render the Butterfly tribe ſo

pleaſing and intereſting to general obſervers. There is, however, a peculiar grace and elegance of form throughout the Sphinges, which immediately diſtinguiſh them from the Phalænæ, or third tribe of Lepidopterous Inſects; and their colours, though chaſte or obſcure, are, for the moſt part, very prettily diverſified. The Sphinges of Great Britain are not numerous; and, in general, the more beautiful kinds are rare. The Sphinx Ocellata is certainly an exception to ſuch remark, for we have not a finer or more abundant ſpecies of the tribe in this country. It is alſo no leſs common in other parts of Europe; and few authors, who have treated on the Entomology of any country in Europe, have neglected to give it a place in their works.

The larva of the Sphinx Ocellata is found on the willow, in May, June, and July, when it becomes a pupa, and remains in the earth till June following; and then comes forth in the perfect ſtate.

PLATE CCLXX.

GRYLLUS MIGRATORIUS.

Migratory Locust.

GENERIC CHARACTER.

Head inflected, armed with jaws, and furnished with palpi. Wings wrapped round the sides of the body, and concealed under the elytra. Feet armed, with two nails. Posterior legs formed for leaping.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax of one segment, and somewhat keeled, or rising in a longitudinal line, in the middle; mandibules blue.

Gryllus Migratorius: thorace subcarinato: segmento unico, mandibulis cœruleis. *Linn. Syst. Nat.* 2. 700. 41.—
Fn. Sv. 871.
Roes. Inf. 2. *Gryll. tab.* 24.
Edw. birds. 208. *tab.* 208.
Degeer. Inf. 3. 446. 1. *tab.* 23. *fig.* 1.
Seb. Mus. 4. *tab.* 65. *fig.* 21.

The Gryllus Migratorius, or Migratory Locust, has always been classed amongst the Insects of this country on local authority. It certainly visited Great Britain in the year 1748, and several small flocks of them were seen in the environs of London, where they caused

cauſed much conſternation, according to the authors of that time. M. Edwards in particular, gave a figure, and a ſhort account of it in his Hiſtory of Birds, [Plate 208] under the name of Great Brown Locuſt. It is not certain that they have appeared, at leaſt in conſiderable numbers in this country, ſince that period; and it is probable, if any ſpecimens of them were then collected, they are now loſt; for we have not hitherto been able to aſcertain, preciſely, an Engliſh ſpecimen of it in any cabinet, and this conſideration alone, has induced us to defer adding this remarkable creature to our illuſtration of Britiſh Inſects.

In the month of September, 1799, LADY AYLESFORD moſt obligingly communicated a living ſpecimen of it to us, and we deem ourſelves particularly fortunate in the opportunity it affords us to aſcertain the difference, however inconſiderable, between the variety found in England and thoſe of warmer countries. It is repreſented in the annexed plate, both in a reſting poſition and with the wings expanded. This ſpecimen was found in a barley field near Packington in Warwickſhire. It lived ſeveral days after its arrival in London, and would probably have ſurvived much longer had it not been injured in the journey, and weakened by long confinement. We remarked, that in feeding, it cuts the ſtalk aſunder in the middle, or near the root, and tearing off the leaves, eats only the pith; this may, in ſome meaſure, account for the great miſchief and depredation theſe creatures commit, when they ſettle in vaſt numbers on any tract of cultivated land.

Though we regard the Gryllus Migratorius as an object of curioſity in this country, in many others they are the terror of the inhabitants. We are not, perhaps, to admit implicitly the relations of all authors, but in thoſe of credibility and information, we find abundant reaſon to hope it may ever remain, as at preſent, a rare Britiſh ſpecies. It is ſaid to be very numerous in Tartary, from whence at certain periods it migrates weſtward, and viſits the ſouth of Europe in incredible quantities. Of all the authors who have treated on the hiſtory of this Inſect, none are more ſatisfactory than Roeſel; his

his obſervations are given in detail, but they are the reſult of uſeful information, and may be deemed a proper ſequel to our conciſe account of it; when we conſider that his obſervations relate to the ſame event and time, the legions of Locuſts that appeared in this country, and throughout Europe in 1748.

* " I have already," ſays Roeſel, " given particulars of thoſe dangerous gueſts in the beginning of the year 1749, and at the ſame time added figures of them †. I ſhall now only obſerve, that in the courſe of the ſame year, they not only appeared in Poland, Hungary, Auſtria, Bohemia, Sileſia, Bavaria, but alſo in Franconia, and conſequently in the environs of our city. Thanks be to God, they have not been numerous about our city, but from Windſheim we have intelligence of the third of September, that they had frightened the inhabitants with their legions, but they departed again on the fourth; ſince then, a much reſpected patron has kindly ſent me, the IMPERIAL AND ROYAL HUNGARIAN EDICT of the preſent year 1749, together with a printed deſcription of the Inſect, and proper inſtructions to the imperial ſubjects, how to extirpate them, and I thought it neceſſary, as they contain much good and uſeful matter, to inſert them." Then he proceeds with *Beſchreibung Deren Anno* 1747, &c. &c. or a deſcription of the Locuſt, as given in the Imperial Edict, &c. In the courſe of which, and the deſcription in page 145, we are informed, that this Locuſt lives three years. The female depoſits her eggs in a kind of bag; the eggs are about a quarter of an inch in length: of a ſlender oblong form, and placed within the bag lengthwiſe, ſo as to form four or five tiers. It is moſt adviſed to dig for them in this ſtate, and burn them; or if they ſhould alight in the winged ſtate, as it is known that the noiſe of bells, &c. will allure them to any particular ſpot, it is recommended to form deep ditches, and decoy, drive, or beat them into the water in multitudes.

* Under the ſection *Der Heuſchrecken und Grillenſammlung*, &c. &c. Vol. II. p. 103.

† Referring to his plate 24, of LOCUSTA GERMANICA and deſcription of the Inſects annexed.

PLATE

PLATE CCLXXI.

PAPILIO HYPERANTHUS.

Ringlet Butterfly.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, brown. Beneath, three eyes or rings on the anterior, and five on the poſterior wings.

Papilio Hyperanthus: alis integerrimis fuſcis ſubtus anticis ocellis tribus, poſticis duobus tribuſque. *Linn. Syſt. Nat.* 2. 768. 127.—*Fn. Sv.* 1043.—*Fab. Ent. Syſt. T.* 3. *p.* 1. *p.* 216. *ſp.* 677.
Degeer. Inſ. 2. *tab.* 2. *fig.* 9. 10.
Schæff. Icon. tab. 127. *fig.* 1, 2.
Eſp. Pap. 1. *tab.* 5. *fig.* 1.
Naturf. 8. *tab.* 3. *fig. D.*

The larva of this Butterfly is very rarely met with; it feeds on the roots of graſs; is hairy, of an aſh colour, with a black line down the ſide, and the tail forked. The pupa is gibbous, brown, and ſpotted with yellow.

Papilio

Papilio Hyperanthus is found in the winged ſtate in June and July. It frequents lanes, and hedges on dry and elevated banks, ſuch as are common in the ſandy and chalky ſoils of Kent.

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E. P. METCALF

PLATE CCLXXII.

PHALÆNA FURCULA.

KITTEN MOTH.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

BOMBYX.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax variegated. Anterior wings grey, ſprinkled with black: baſe and apex white, with black ſpots. Poſterior wings white, with a marginal row of black points.

PHALÆNA FURCULA: thorace variegato, alis griſeis baſi apiceque albis nigro punctatis. *Linn. Syſt. Nat.* 2. 823. 51.—*Fn. Sv.* 1122.—*Fab. Ent. Syſt. T.* 3. *p.* 1. 475. *ſp.* 213. *Panz. Faun. Inſ. Germ.* 4. *tab.* 20. *Wilks. pap.* 13. *tab.* 1. *fig.* 1. *Sepp. Inſ.* 4. 29. *tab.* 6.

Phalæna Furcula is a neat and intereſting Britiſh Inſect. Except in ſize it is very ſimilar to Phalæna Vinula; and the Aurelians, from this ſimilarity, and a fanciful reference to the brindled appearance of

of the anterior wings, have whimſically, but not inaptly, given their Engliſh trivial names: Phalæna Vinula, being the largeſt, is called the Puſs Moth; and Phalæna Furcula, the Kitten. The laſt is rare: Phalæna Vinula very common.

The larva is found on the willow in July. It remains in the pupa ſtate the whole winter: the Moth comes forth in May.

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PLATE CCLXXIII.

CHRYSOMELA NITIDULA.

GENERIC CHARACTER.

Antennæ compoſed of globular articulations, which encreaſe in bulk towards the end. Thorax and elytro without margin.

SPECIFIC CHARACTER

AND

SYNONYMS.

Feet formed for leaping. Wing's caſes ſhining green. Head and thorax, crimſon, reſplendent with gold. Legs ferruginous.

CHRYSOMELA NITIDULA: ſaltatoria, elytris cœruleis, capite thoraceque aureo. *Faun. Suec.* 542.

GALLERUCA NITIDULA, ſaltatoria viridis nitens, capite thoraceque aureis, pedibus ferrugineis. *Fab. Ent. Syſt.* 1. 30. *ſp.* 81.

This beautiful little ſpecies is ſometimes found on the willow and alder. The ſmalleſt figure denotes the natural ſize.

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PLATE CCLXXIV.

FIG. I. II.

PHALÆNA HUMULI.

GHOST MOTH.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Female yellow, with fulvous marks. Male ſnowy white.

PHALÆNA HUMULI: alis flavis fulvo ſtriatis maris niveis. *Linn. Syſt. Nat.* 2. 833. 84.—*Fn. Sv.* 1147.

HEPIALUS HUMULI: *Fab. Ent. Syſt. T.* 3. *p.* 2. 5. *ſp.* 1.
Degeer. Inſ. 1. *tab.* 7. *fig.* 5, 6.
Sulz. Hiſt. Inſ. tab. 22. *fig.* 1.

The male and female of *Phalæna Humuli* are very diſſimilar, and may eaſily be miſtaken for diſtinct ſpecies. The male is perfectly white, with a gloſs like ſatin, the abdomen, antennæ, and margin of the wings excepted, for theſe are reddiſh brown. The female is of a fine yellow colour, with ſeveral fulvous or orange marks; and is ſomewhat larger than the other ſex.

The larva lives in the earth, at the roots of the Burdock and hop. It is of a very pale or whitiſh colour, with a brown head, and ſixteen feet.

FIG.

FIG. III.

PHALÆNA HECTA.

Golden Swift Moth.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Wings deflexed. Yellow brown. Two oblique, whitiſh, or yellow bands, conſiſting of interrupted and irregular ſpots, acroſs the anterior wings.

Phalæna Hecta: lutea, alis deflexis: primoribus faſciis duabus albidis obliquis punctatæ interruptis. *Fn. Sv.* 1148.—*Gmel. Linn. Syſt. Nat. Ent. p.* 2617. *ſp.* 85.

Hepialus Hectus. *Fab. Ent. Syſt. T.* 3. *p.* 2. *p.* 6. *Sp.* 4. *Degeer. Inſ.* 1. *tab.* 7. *fig.* 11.

This ſpecies is common in the ſkirts of woods in May and June. The colours in the male Inſect are more vivid than the female, and the ſpots on the anterior wings in particular are of ſuch a beautiful yellow, that Engliſh collectors have termed this kind the Golden Swift Moth.

It commences its flight earlier in the evening than any other of the nocturnal lepidopterous inſects. Its manner of flying is very ſingular, and attracted the notice of Linnæus, who aptly compares it to the motion of the pendulum of a clock.

The larva is unknown: it is ſuppoſed to feed on the roots of plants under ground.

PLATE CCLXXV.

PHALÆNA ALNIARIA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ feathered. Wings yellow, ſpeckled with brown, and marked with two tranſverſe ſtreaks. Margins deeply indentated.

PHALÆNA ALNIARIA: pectinicornis alis eroſis flavis fuſco pulverulentis: ſtrigis duabus fuſcis. *Linn. Syſt. Nat.* 2. 860. 205.—*Fn. Sv.* 1230. *Fab. Ent. Syſt. T.* 3. *p.* 2. *p.* 136. *Sp.* 24. *Schæff. Icon. tab.* 135. *fig.* 1, 2.

This Inſect is analogous to ſeveral other ſpecies of Britiſh Phalænæ, known amongſt collectors by the indefinite term, Thorn Moths. It is remarkable only in the larva ſtate, when, from its ſimilarity in form and colour to a twig of the tree on which it feeds, it is ſuppoſed to eſcape the notice of its enemies. It is a dull creature, and will often remain in an oblique, or erect poſition, without motion, or appearance of life, for ſeveral hours together.

It is found on fruit-trees, in the ſtate of larva, in May: the Moth appears in Auguſt or September.

PLATE CCLXXVI.

CHRYSOMELA TENEBRICOSA.

GENERIC CHARACTER.

Antennæ compoſed of globular articulations, which encreaſe in bulk towards the end. Thorax and elytra without margin.

SPECIFIC CHARACTER

AND

SYNONYMS.

No wings. Somewhat oval. Thorax lunated. Black, gloſſed with blue, or purple.

CHRYSOMELA TENEBRICOSA: aptera ovata, atra antennis pedibuſque violaceis. *Fab. Ent. Syſt.* 1. 308. 3.

TENEBRIO LÆVIGATUS, apterus niger lævis, elytris lævibus thorace lunato, ſubtus cœruleis. *Linn. Syſt. Nat.* 678. 29.

Chryſomela Tenebrioides. *Gmel. Linn. Syſt. Nat.* 1667. 1.

This Creature is entirely of a black colour, gloſſed, in ſome ſpecimens, with ſhining blue; in others, with purple. Thoſe colours are particularly vivid on the legs and underſide of the Inſect. It is very common during moſt part of the ſummer.

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PLATE CCLXXVII.

FIG. I.

PHRYGANEA VARIA?

NEUROPTERA.

GENERIC CHARACTER.

Mouth furniſhed with four palpi. Stemmata three. Antennæ longer than the thorax. Firſt wings incumbent. Second wings folded.

SPECIFIC CHARACTER.

Wings greyiſh brown, variegated with black, and ſpotted in the middle with white.

PHRYGANEA VARIA: alis cinereo, nigroque variis: puncto medio diſtincto niveo, antennis nigris. *Fab. Ent. Syſt. T.* 2. *p.* 77, 103.

The *Phryganea Varia* of Fabricius has not been figured by any author; but is, we ſuſpect, no other than a ſmall variety of P. Grandis, and which Linnæus deſcribes as "*alis cinereo teſtaceis*, "*lineolis duabus longitudinalibus nigris, puncto albo.*" Fabricius has altered this definition to "*alis teſtaceis cinereo maculatis*," in the *Entomologia Syſtematica*, and erroneouſly attributes the latter to Linnæus.

We cannot avoid, in ſupport of our opinion, noticing the ſtriking diſſimilarity between the ſeveral figures of Phryganea Grandis, in our copies of the works quoted by Linnæus and Fabricius. *Roeſel* has two figures, one of a bluiſh grey, the other

yellowiſh brown; both vary in the markings, and are nearly twice the ſize of our ſpecimen. In *Sulzer*, the wings are ſhorter and more pointed than in the preceding work; and are rather pellucid and tinged with yellow: the markings totally different from thoſe in *Roeſel.* Thoſe in *Schæffer* are moſt like one of our ſpecimens in form and reddiſh colour, but ſtill with markings as different from it as from either of the preceding figures. We may hence conclude the marks are inconſtant, and the colours extremely variable; and that in point of ſize, the preſent ſpecies may be the *Varia* of Fabricius, ſince he notices its affinity to the P. Grandis; and adds, it is rather ſmaller.—"Nimis Affinis P. Grandis at paullo minor." *Fab. Ent. Syſt.*

FIG. II.

HEMEROBIUS PERLA.

GOLDEN EYE.

GENERIC CHARACTER.

Mouth armed with two teeth and four palpi. Wings deflected. Antennæ ſetaceous, and longer than the thorax.

SPECIFIC CHARACTER.

Yellowiſh green. Wings tranſparent. Eyes golden.

HEMEROBIUS PERLA: luteo viridis alis hyalinis: vaſis viridibus. *Linn. Syſt. Nat.* 2. 911.-2. *Fn. Sv.* 1504.

Extremely common in ſummer. It is a very delicate little creature, greeniſh, the wings reticulated, perfectly tranſparent, with various beautiful, pearly, reddiſh, greeniſh, and yellowiſh gloſſes. The eye is large, globular, and has the appearance of gold, whence its Engliſh trivial name. Stink much before a thunder-ſtorm.

PLATE

PLATE CCLXXVIII.

PAPILIO POLYCHLOROS.

Wood Tortoiseshell Butterfly.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, browniſh orange, ſpotted with black.

Papilio Polychloros: alis angulatis fulvis nigro maculatis: anticis ſupra punctis quatuor nigris. *Linn. Syſt. Nat.* 2. 777. 166.—*Fn. Sv.* 1057.—*Fab. Syſt. Ent. t.* 3. *p.* 1. 121. *ſp.*372.
Merian Europ. tab. 1.
Roeſ. Inſ. 1. *pap.* 1. *tab.* 2.
Schæff. Icon. tab. 146. *fig.* 1, 2.
Ammir. tab. 15.
Friſch. Inſ. 6. *tab.* 3.
Wilks. pap. 56. *tab.* 3. *a.* 5.

There is a ſtriking ſimilarity in form and colour between this ſpecies and Papilio Urticæ, already figured in this work. Collectors have hence denominated the two ſpecies the Tortoiſeſhell

 Butterflies;

Butterflies; they differ, however, materially in ſize, as well as manner of life. The ſmalleſt kind is very common, and its larva feeds on the Nettle; the preſent ſpecies is found on the Elm, frequents woods, and is very ſcarce.

The larva is found in June; it becomes a pupa in the ſame month; and after remaining in that ſtate twenty-one days, the winged Inſect is produced.

PLATE CCLXXIX.

PAPILIO MEGAERA.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings in general deflexed when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated yellowiſh brown, with dark marks acroſs. One eye on the anterior pair: Five on the poſterior pair above, and ſix beneath.

PAPILIO MEGAERA: alis dentatis luteis fuſco faſciatis: anticis ocello, poſticis ſupraquinis, ſubtus ſex. *Linn. Syſt. Nat.* 2. 771. 142.—*Fab. Ent. Syſt. T.* 3. *p.* 1. *p.* 94, 292.—*Schæff. Icon. tab.* 148. *fig.* 3, 4.

This Butterfly is common in meadows in July. The larva is green, hairy, with a bifid tail; it feeds on graſs, and changes to the pupa ſtate in June.

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PLATE CCLXXX.

FIG. I.

PAPILIO NAPI.

GREEN-VEINED WHITE BUTTERFLY.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, white. Beneath, veined with green.

PAPILIO NAPI: alis integerrimis albis: ſubtus venis dilatis vireſcentibus. *Linn. Syſt. Nat.* 2. 760. 77.—*Fn. Sv.* 1037.
—*Fab. Ent. Syſt. T.* 3. *p.* 1. 187. 576.
Geoff. Inſ. 2. 70. 42.
Merian Europ. 2. *tab.* 39.
Albin Inſ. tab. 52. *fig. F. G.*

Frequent in gardens in May. The larva feeds on the cabbage.

FIG. II.

PAPILIO SINAPIS.

WOOD LADY, or WOOD WHITE BUTTERFLY.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Wings rounded, entire, white. Apex brown.

PAPILIO NAPI: alis rotundatis integerrimis albis: apicibus fuſcis.
Linn. Syſt. Nat. 2. 760. 79.—*Fn. Sv.* 1038.—*Fab. Ent. Syſt. T.* 3. *p.* 1. *p.* 187. *ſp.* 577.
Schæff. Icon. tab. 97. *fig.* 8, 9, 10, 11.
Degeer. Inſ. 2. 183. 4. *tab.* 1. *fig.* 1.
Raj. Inſ. 116. 8.

Found in woods in May; a ſecond brood appears in Auguſt.

PLATE

PLATE CCLXXXI.

PHALÆNA FAGANA.

COMMON SILVER-LINE MOTH.

GENERIC CHARACTER.

Antennæ, taper from the baſe. Wings in general deflexed, when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Anterior wings green, with three oblique white, or ſilvery ſtripes acroſs each. Antennæ and feet fulvous.

PYRALIS FAGANA: alis viridibus: ſtrigis tribus obliquis albis, antennis pedibuſque fulvis. *Fab. Ent. Syſt.* 3. *p.* 2. 243. 5.

Phalæna Fagana. *Wien. Verz.* 125. 2.
Roeſ. Inſ. 4. *tab.* 22.
Petiv. Gazoph. tab. 7. *fig.* 11.
Ammiral Inſ. tab. 2. *fig.* 1.
Alb. Inſ. tab. 31.
Wilks. pap. 1. *tab.* 1. *a.* 13.

The Phalæna Fagana is not one of the rarer Britiſh ſpecies; it claims attention for its ſingular and beautiful appearance only. The larva is found on the oak in Auguſt and September: in the beginning

beginning of October, it ſpins a very extraordinary kind of covering on a leaf of the oak, and becomes a pupa within. This covering ſomewhat reſembles a tent, or rather an inverted boat, being ſhuttle formed, and having a keel, or longitudinal ridge along the upper part: its colour is yellowiſh brown; the pupa underneath is purple. The Moth appears in the winged ſtate in May

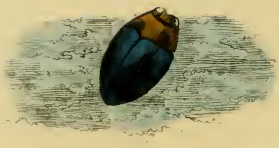

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PLATE CCLXXXII.

BUPRESTIS PYGMEA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ ſetaceous, length of the thorax. Head half retracted, or drawn within the thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wing caſes blue. Head and thorax brown, bronzed.

BUPRESTIS PYGMEA: elytris integris cyaneis, capite thoraceque æneis nitidis. *Fab. Ent. Syſt.* 1. *p.* 2. *p.* 211. *Sp.* 110.

The diſcovery of this minute but rare ſpecies of Bupreſtis in this country, is due to Alexander M'Leay, Eſq.——It was found in a puddle, on the road ſide, near Coombe Wood, in the month of May laſt. The ſpecimen is repreſented in the annexed plate; the ſmalleſt figure denotes the natural ſize.

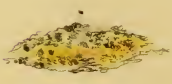

PLATE CCLXXXIII.

PHALÆNA MELLONELLA.

HONEY MOTH.

GENERIC CHARACTER.

Antennæ taper towards the baſe. Wings in general deflexed when at reſt. Fly by night.

TINEA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Anterior wings grey: poſterior part purple. Scutellum black, white at the tip.

P. TINEA MELLONELLA: alis canis poſticis purpuraſcentibus: ſtriga alba, ſcutello nigro apice candido. *Linn. Syſt. Nat.* 2. 888. 375.—*Fn. Sv.* 1383.—*Fab. Ent. Syſt.* 3. *p.* 2. 305. *Sp.* 79.
Reaum. Inſ. 3. *tab.* 19. *fig.* 79.

The larva of this ſpecies is ſometimes found in bee-hives; it inſinuates itſelf amongſt the cells of thoſe Inſects, and ſubſiſts on the honey. It remains in the pupa ſtate in a long cylindrical channel or paſſage it forms in the larva ſtate: the winged Inſect comes forth in Auguſt.

PLATE

PLATE CCLXXXIV.

SPHINX LIGUSTRI.

Privet Sphinx, or Hawk Moth.

GENERIC CHARACTER.

Antennæ thickeſt in the middle. Wings in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire. Poſterior pair red, with three black bars acroſs. Abdomen red, with black belts.

Sphinx Ligustri: alis integris poſticis rufis; faſciis tribus nigris, abdomine rubro: cingulis nigris. *Linn. Syſt. Nat.* 2. 799. 8. *Fn. Sv.* 1087.

Sphinx Liguſtri: *Fab. Ent. Syſt. T.* 3. *p.* 1. 374. 55.
Roeſ. Inſ. 3. *tab.* 5.
Degeer. Inſ. 1. *tab.* 1. *fig.* 6.
Schæff. Elen. tab. 116. *fig.* 2.
Albin. Inſ. tab. 7. *fig.* 10.
Eſp. Inſ. 2. *tab.* 6.
Reaum. Inſ. 2. *tab.* 20, *fig.* 1—4.

The larva of this beautiful ſpecies is found very frequently on the Privet in the months of July and Auguſt. It buries itſelf in the earth preparatory to its becoming a pupa, and comes forth in the fly ſtate in June following.

PLATE

PLATE CCLXXXV.

CASSIDA MACULATA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ nearly filiform, but encreaſing in bulk towards the extremity. Margin of the elytra broad. Head concealed under the thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Greeniſh, variegated with ſpots of black on the elytra, particularly along the future of the back.

CASSIDA MACULATA: viridibus elytris rarius, futura dorſali confertius nigro maculatis. *Linn. Syſt. Nat.* 2. 575. 6. *Fab. Syſt. Ent.* 88. 2.

Caſſida viridis maculis nigris variegata. *Geoff. Inſ.* 1. 314. 5. *tab.* 5. *fig.* 6.

Has been ſuppoſed only a variety of Caſſida viridis, but is evidently a diſtinct ſpecies, and is very uncommon in England.

Fig. I. The natural ſize.

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PLATE CCLXXXVI.

FIG I.

CHRYSOMELA MARSHAMI.

GENERIC CHARACTER.

Antennæ articulated, larger towards the end. Thorax and elytra without margin.

SPECIFIC CHARACTER.

Thorax greeniſh gold. Wing-caſes coppery, irregularly punctated.

CHRYSOMELA MARSHAMI: thorace viridi æneo, elytris cupreis vagè punctatis.

As the Britiſh Coleoptera are in few inſtances remarkable for that ſplendid glow and gaiety of colours which diſtinguiſh thoſe of warmer climates, we are more inclined to admire the beauty of this recently diſcovered ſpecies of Chryſomela. It appears not to have been noticed by any preceding author; and as it remains with us to deſignate ſome ſpecific appellation, we have named it *Marſhami*, in compliment to that eminent entomologiſt T. Marſham, Eſq.—a name, perhaps, the more appropriate, as it is known among that gentleman's ſcientific friends the world will ſoon be favoured with his invaluable papers on Britiſh Coleoptera.

This Inſect is nearly allied to C. Faſtuoſa and C. Hypericum.—Found in Norwood laſt May.

FIG.

FIG. II.

CHRYSOMELA GOETTINGENSIS.

SPECIFIC CHARACTER.

Oval black, gloſſed with purple. Legs purple. Tarſi reddiſh.

CHRYSOMELA GOETTINGENSIS: ovata atra pedibus violaceis: plantis rufis. *Linn. Syſt. Nat.* 2. 586. 4.—*Fn. Sv.* 506. *Fab. Ent. Syſt. T.* 1. *p.* 309. *Degeer. Inſ.* 5. 298. 8.

A rare ſpecies in this country; very common in Germany.

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PLATE CCLXXXVII.

FIG. I.

PHALÆNA PAPILIONARIA.

LARGE EMERALD MOTH.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER.

Antennæ feathered. Wings green: a continued ſtreak of whitiſh ſemicircular marks acroſs the middle of each, and an interrupted or half ſtreak of the ſame colour below it.

PHALÆNA PAPILIONARIA: pectinicornis alis ſubrepandis viridibus: ſtriga ſeſquialtera repanda. *Linn. Syſt. Nat.* 2. 864. 225.—*Fn. Sv.* 1247.
Wien. Verz. 96. 1.
Roeſ. Inſ. 4. *tab.* 18. *fig.* 3.

A rare and very elegant Britiſh ſpecies. The larva is green, with about ten incurvated ſpines or hooks along the back. It is found in this ſtate on the Birch and Alder in June, changes to the pupa the latter end of the ſame month, and appears on the wing fourteen days after.

The pupa is green variegated with yellow.

FIG. II.

PHALÆNA PENNARIA.

SPECIFIC CHARACTER.

Antennæ feathered; Wings indented reddiſh: two dark ſtreaks acroſs the anterior pair, and a diſtinct white ſpot near the apex.

PHALÆNA PENNARIA: pectinicornis alis ſubdentatis rufeſcentibus: ſtrigis duabus fuſcis punctoque apicis albo.
Linn. Syſt. Nat. 2. 861. 209.—*Fab. Ent. Syſt.* 3. *p.* 2. 132. 14.

The larva ſmooth reddiſh brown; found on Fruit-trees.

FIG. III.

PHALÆNA BILINEATA.

SPECIFIC CHARACTER.

Antennæ ſetaceous, Wings yellow undulated with brown ſtreaks, and a broad wave acroſs the anterior pair.

PHALÆNA BILINEATA: ſeticornis alis luteis teſtaceo undatis: faſcia repanda, margine fuſco. *Linn. Syſt. Nat.* 2. 868. 245.—*Fn. Sv.* 1284.
Clerk. Icon. tab. 6. *fig.* 13.

Very abundant in White-thorn hedges during moſt part of the Summer.

PLATE

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PLATE CCLXXXVIII.

FIG. I. I.

CICADA NITIDULA.

GENERIC CHARACTER.

Roſtrum bent inwards. Antennæ ſetaceous. Wings membranaceous declining along the ſides of the body.

SPECIFIC CHARACTER.

Yellow. Wing-caſes tranſparent, whitiſh, with two dark tranſverſe bars.

CICADA NITIDULA: flava, elytris hyalino albis, faciis duabus nigris. *Fab. Ent. Syſt.* 4. *p.* 46. *n.* 87.

This minute ſpecies is repreſented in the natural ſize at Fig. I. The upper figure exhibits its magnified appearance.

FIG.

FIG. II.

CICADA FLAVOSTRIATA.

SPECIFIC CHARACTER.

Black. Head and Thorax tranſverſely ſtreaked with yellow; ſtreaks on the wing-caſes of the ſame colour, diſpoſed longitudinally.

CICADA FLAVOSTRIATA: nigra, capite thoraceque tranſverſe elytriſque longitudinaliter flavo-ſtriatis.

This Inſect has been confounded with the Cicada ſtriata of *Linnæus, Faun. Suec.* 887. and *Syſt. Nat.* 709. *n.* 30. in general; but it is certainly not that ſpecies. Linnæus refers to *Geoff.* 1. *p.* 424. *n.* 20. for *C. ſtriata*, wherein it is thus deſcribed; "Head pale green, with two black points in front, and four near the baſe; Thorax of the ſame colour, marked with ſeveral leſs diſtinct black ſpots alſo." We therefore conſider our C. flavoſtriata as a new ſpecies.

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NEUROPTERA.

NEUROPTERA.

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Furcula, Phalæna, Kitten Moth - -	272.	
Galathea, Papilio, Marbled Butterfly - -	258.	
Gamma, Phalæna, Golden γ Moth - -	265.	2.
Goettingenſis, Chryſomela - - -	286.	2.
hecta Phalæna, Golden Swift Moth - -	274.	3.
hirundinis, Hippoboſca - - -	268.	1.
humuli, Phalæna, Ghoſt Moth - - -	274.	1. 2.
Hyperanthus, Papilio, Ringlet Butterfly -	271.	
Jota, Phalæna, Golden i Moth - -	265.	1.
Lemnata, Phalæna, Small White China Mark Moth	266.	1. 2.
Liguſtri, Sphinx, Privet Moth - - -	284.	
maculata Caſſida - - - -	285.	

Marſhami,

	Plate	Fig.
Marſhami, Chryſomela	286.	1.
Megaera, Papilio	279.	
Melolontha, Scarabæus, Tree-beetle, or Cock-chafer	264.	
Melonella, Phalæna, Honey Moth	283.	
Migratorius, Gryllus, Migratory Locuſt	270.	
Minuta, Bupreſtis	256.	
Napi, Papilio, Green Veined White Butterfly	280.	1.
nitidula, Chryſomela	273.	
nitidula, Cicada	288.	1.
nuchicornis, Scarabæus	255.	2.
nutans, Scarabæus	255.	1.
Ocellata, Sphinx, Eyed Hawk Moth	269.	
Ovina, Hippoboſca	268.	2.
Paniſcus, Papilio	254.	1. 1.
Pavonia, Phalæna	253.	
Papilionaria, Phalæna, Emerald Moth	287.	1.
parallelipipedus, Small Black Stag Beetle	264.	1.
perla, Hemerobius	277.	2.
Pennaria, Phalæna	287.	2.
pinetella, Phalæna, Pearl Veneer Moth	263.	1.
Podælla, Phalæna, Scarce Japanned Moth	267.	3.
Polychloros, Papilio, Wood Tortoiſeſhell Butterfly	278.	
Pygmea, Bupreſtis	282.	
Semele, Papilio, Black Eyed Marble Butterfly	259.	
Sinapis, Papilio, Wood Lady Butterfly	280.	2.
Stercorarius, Scarabæus, Common Dor	264.	3.
Sylvanus, Papilio	254.	2.
tenebricoſa, Chryſomela	276.	
varia, Phryganea	277.	1.
Verbaſci, Phalæna, Water Betony Moth	257.	
Umbratica, Phalæna, Shark Moth	262.	2. 2.